

REMARKS

The final Office Action mailed August 25, 2003, has been carefully studied. Upon entry of the amendments presented above, the claims in the application will still remain as claims 1-11. Again, these claims define patentable subject matter under §§102 and 103, and do not incorporate any prohibited new matter; accordingly, these claims should be allowed, and applicants respectfully request favorable reconsideration, entry of the amendments presented above and allowance.

Claims 1-10 have been rejected under the first paragraph of §112. This rejection is respectfully traversed.

The rejection states that the proviso added in the preceding Reply "that the isolated islets are not artificially encapsulated" constitutes prohibited new matter. The applicants respectfully disagree because the recitation is both implicit and inherent in applicants' disclosure as filed, and the law is clear that it is not new matter to expressly recite that which is implicitly or inherently supported in the original disclosure.

As regards the subject matter in question being implicit, applicants respectfully point to the description of the prior art in applicants' specification, especially in the

paragraph spanning pages 1 and 2 where artificial encapsulation is mentioned as being carried out in the prior art. Applicants' invention is contrasted with the artificial encapsulation carried out in the prior art, and this contrast would be well understood by those skilled in the art reading applicants' specification, whereby those skilled in the present art would know that the isolated islets are not artificially encapsulated, as claimed.

As regards the proviso being inherently present in the disclosure as filed, this should be clear from the examples, none of which constitutes artificial encapsulation. Indeed, the examples provide direct support for the proviso.

While applicants believe that it should not be necessary to cite extensively from the case law in support of the proposition that wording may be used which is only implicitly or inherently supported in the original disclosure, applicants nevertheless cite below some case which confirm that a statement may be added to a specification or claim even though there is no explicit support in the original specification, and the added material will not be considered "new matter" so long as there is implicit or inherent support in the original specification. The Supreme Court of the United States has so held in *Marconi Wireless Telegraph Company of America v. United States*, 320 US 1, 57 USPQ 471.

It has been stated that the "disclosure [in the patent specification] includes not only whatever is explicitly shown and described in the application, but also what is fairly to be inferred from the application taken as a whole," citing *Wezel & Naumann Aktiengesellschaft v. Alexander Leunis, Inc. et al*, and *Morgan Lithograph Co.* 6 USPQ 154, Cert. denied 285 US 545.

In the *Marconi Wireless* case, *supra*, Mr. Chief Justice Stone, speaking for the Court, stated the following [57 USPQ at 483 (Decided June 21, 1943)]:

Stone's patent, ... makes explicit, as the patent law permits, what was implicit in Stone's application.

... The amendments thus merely clarified and explained in fuller detail two alternative means which could be employed in the invention described in the original application, one of those means being the construction of the antenna so as to be highly resonant, i.e. tuned, to a particular frequency.

Please also see *In re Smythe et al*, 178 USPQ 279, 285:

By disclosing in a patent application a device that inherently performs a function... a patent applicant necessarily discloses that function.... The application may later be amended to recite the function, theory of advantage without introducing prohibited new matter.

Moreover, the burden initially is on the Patent and Trademark Office. Thus, it has been stated, noting *In re Edwards et al*, 196 USPQ 465, 469:

The burden of showing that the ... [subject matter in question] is not described in the application rests on the Patent and Trademark Office in the first instance, and it is up to the Patent and Trademark Office to give reasons why a description not in Ipsis Verbis is insufficient. *In re Salem*, ...193 USPQ 513, 518 ...; *In re Wertheim*,... 191 USPQ at 98. (Emphasis in original)

There should be no doubt that applicants' proviso is not new matter and is absolutely permitted according to the law.

Applicants respectfully request withdrawal of the rejection under the first paragraph of §112.

No rejection has been imposed under the second paragraph of §112, although the last sentence on page 2 of the final Action refers to the claims being indefinite.

Applicants assume that, in the absence of a stated rejection under the second paragraph of §112, the sentence in question is intended by the PTO to relate to the rejection under the first paragraph of §112, which has been traversed above and addressed . In any event, there is nothing indefinite about applicants' claims. They would be fully and easily understood by those skilled in the art reading applicants' specification.

The previous rejection based on Wagner has been repeated. As understood, this is a rejection of claims 1-4, 10 and 11 under §102. Such rejection is again respectfully traversed.

Wagner describes microcapsules used in transplantation surgery. The microcapsules are made of organic material and allow release of substances. The claimed invention comprises non-encapsulated islets of Langerhans. The islets of Langerhans are coated, prior to transplantation, by a clotting preventing agent. The coating procedure is an irreversible modification of the islets of Langerhans where heparin molecules or other clotting preventing agents are adsorbed to the cell surface in the form of a permeable coating incapable of preventing immunological cross-reactions. The claimed invention is clearly quite distinct from Wagner.

The PTO argues that Wagner discloses that islets **may** be encapsulated. Applicants maintain that Wagner discloses no other alternative than encapsulation (see. Abb.I, col. 2, lines 40-62). It is clear to anyone skilled in the art upon reading Wagner that the capsule material is utilized as a measure to avoid immunological reactions, due to the fact that the capsule material exhibit poor compatibility with blood. Wagner teaches blending the material with heparin, hirudin, macrumar and related derivatives. There is no teaching by Wagner as to indicate that the islets per se might provoke clotting, which is a major novel feature of the claimed invention. Wagner does not teach mixing the cells with an

anticoagulant but rather mixing the anticoagulant in the material used to form the capsules, see claims 6-7.

The rejection is unjustified and should be withdrawn. Such is respectfully requested.

The previous rejection based on Lenchow has been repeated. Applicants understand that this is a rejection of claims 1 and 5-7 under §102. Such rejection is again respectfully traversed.

The Lenchow publication describes the use of human islets of Langerhans for transplantation into mice. The major problem discussed in this paper concerns the risk of rejection after transplantation, not coagulation, as in the claimed invention. The coagulation process, which is normally started at the moment the islets of Langerhans are transplanted, is not initiated if a clotting preventing agent is used.

Lenchow discloses a protocol for immunosuppression in connection with xenografting, and the publication is totally unrelated to prevention of clotting. The immunoglobulin G1Fc(CTL.A4Ig) is not a clotting agent, a fact well known by persons skilled in the art. The heparin coating method according to Corline Systems AB does not result in micro- or macrocapsules. The concept of using encapsulation entails establishing a barrier to prevent immunological cross reactions between the host tissue and the transplanted cells.

This cannot be accomplished by heparin coating according to Corline method. The present application discloses the use of immobilized heparin directly on the surface of islets of Langerhans in order to counteract the clot provoking activity of the islets.

In the rejection under §102 based on Lenchow, the Office Action states "that prevention of clotting is not claimed." Applicants maintain that it need not be expressly claimed, because prevention¹ of clotting is inherently achieved according to the claimed process. Prevention or inhibition or reduction of clotting is thus claimed in applicants' claims, even if applicants' claims are not amended, because that is an inherent result of proceeding according to applicants' invention and is part of applicants' invention "as a whole".

Lenchow does not anticipate any of applicants' claims. Applicants respectfully request withdrawal of the rejection.

The rejections based on Soon-Shiong both under §§102 and 103 have been repeated. Applicants understand that claims 1-4, 10 and 11 are rejected under §102 as anticipated by Soon-Shiong and that claim 5 is rejected as obvious under §103 from

¹ By "prevention", applicants mean prevention of some significant amount of clotting, namely inhibition or reducing of clotting, not necessarily 100% total prevention. Accordingly, so as to avoid confusion, applicants propose to amend the claims as indicated above to specify preventing or reducing clotting. Support for example is found in applicants' specification at page 3, lines 17 and 18.

Soon-Shiong. These rejections are again respectfully traversed.

Soon-Shiong discloses microcapsules for use in conjunction with biological material. The claimed invention is clearly distinct from Soon-Shiong since the citation does not comprise encapsulation of the islets of Langerhans.

The studies according to Soon-Shiong are based on encapsulated cells and, hence, any incorporation of platelet inhibiting drugs or, as may have been inferred hereby, any other agent capable of inhibiting clotting would have been indicated by the thrombogenic character of the capsule material.

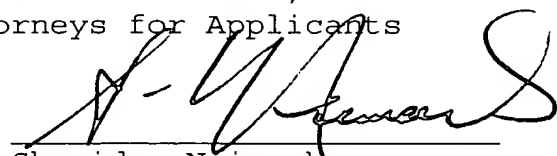
Soon-Shiong neither anticipates nor makes obvious any of applicants' claims. Applicants respectfully request withdrawal of these rejections.

Favorable reconsideration, entry of the amendments presented above, and allowance are earnestly solicited.

Respectfully submitted,

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